

## REMARKS/ARGUMENTS

The Office Action mailed March 26, 2003 has been reviewed and carefully considered. Claims 1 and 8 have been amended. Claims 1-14 are pending in this application, with claims 1 and 8 being the only independent claims. Reconsideration of the above-identified application, as herein amended and in view of the following remarks, is respectfully requested.

In the Office Action mailed March 26, 2003, claims 1-14 stand rejected under 35 U.S.C. §103 as unpatentable over U.S. Patent No. 5,831,976 (Lin) in view of U.S. Patent No. 5,606,729 (D'Amico).

Before discussing the cited prior art and the Examiner's rejections of the claims in view of that art, a brief summary of the present invention is appropriate. The present invention relates to dynamic apportionment of channels in a multiplexed radio system with a plurality of base stations having overlapping coverage areas. A centralized set of information is assembled indicative of interference among the base stations and or mobile stations. A slot or channel in which the base stations interfere with one another may be assigned as "owned" by one of the base stations and "avoided" by the other base stations. A slot or channel on which two base stations would interfere with each other but is not assigned as owned, may be assigned as "shared" (see page 4, lines 8-12 and page 8, lines 5-10).

When a slot is to be allocated for communication between a base station and a mobile station, the slots owned by the base station are first measured (path-loss). If such a slot is found with acceptable path loss, then the communication is assigned to it. If no acceptable owned slots are found, the shared slots are measured. If a shared slot with acceptable loss is found, it is used. Finally, if no shared or owned slots are found, the avoided slots may be measured (see page 4, lines 12-20 and page 8, line 11 to page 9, line 4).

Accordingly, the present invention first determines a classification for each channel according to the probability of interference at the channels with other base stations in the communication system. Channels are then allocated according to (1) the classification and (2) a desired quality class of transmission.

Independent claim 1 has been amended to include the steps of "predetermining, for each base station, a classification for each channel according to the probability of interference at the

channel with other base stations of the plurality of bases stations" and "allocating on request a channel according to said predetermined classification and a desired quality class of transmission".

Lin discloses a method and apparatus for time-sharing a radio communication channel. The Examiner states that Lin discloses the step of "predetermining for each base station, a classification for each channel according to the probability of interference at the channels" at col. 4, lines 38-63 & col. 5, line 59-col. 6, line 3. However, that section of Lin merely discloses that the inbound and outbound channel transmissions of one base station are synchronized using time division duplex (col. 4, lines 52-55). Accordingly, Lin fails to disclose predetermining a classification for each channel according to the probability of interference at the channels with other base stations, as now expressly recited in independent claims 1 and 8. As stated in the office action, Lin also fails to teach or suggest allocating a channel according to the predetermined classification and a desired quality class of transmission, which is also recited in independent claims 1 and 8.

D'Amico fails to teach what Lin lacks. The Office Action states that D'Amico discloses, at col. 10, lines 38-67, allocating a channel according to the predetermined classification and a desired quality class of transmission. However, this portion of D'Amico merely describes the steps for determining the interference plus noise  $I_{mx}$ . The interference plus noise in D'Amico of a base station is a measured amount of interference from all other base stations and background noise (see col. 8, lines 20-39 and col. 9, lines 39-62). While the measurement of  $I_{mx}$  disclosed in D'Amico is related to the interference from other base stations, it is respectfully submitted that D'Amico fails to teach or suggest the determination of a classification for each channel according to the probability of interference with other base stations. Furthermore, since D'Amico fails to teach the determination of a classification based on interference from other base stations, D'Amico also fails to teach or suggest allocating a channel according to the predetermined classification and a desired quality class of transmission, as expressly recited in independent claims 1 and 8.

In view of the above remarks, it is respectfully submitted that independent claims 1 and 8 are not obvious over Lin in view of D'Amico.

Dependent claims 2-7 and 9-14, each being dependent on one of independent claims 1 and 8, are allowable for the same reasons as are independent claims 1 and 8.

The application is now deemed to be in condition for allowance and notice to that effect is solicited.

Respectfully submitted,

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